

WHAT IS CLAIMED IS :

1. A method for the allocation of resources in a communications system comprising several stations, at least two of which are not within range of visibility, the method comprising the following steps:
 - 5 defining a graph of competition between the different stations;
 - assigning time intervals to each station in making successive passages on all the stations and carrying out the following steps at each passage and for each station:
 - E is an interval of given time interval numbers;
 - 10 n is the smallest natural integer that does not belong to the interval E;
 - 15 if it is not the first passage AND if $n > N_{max}$, then no time interval whatsoever is added to the station S_i ;
 - if it is the first passage OR if $n \leq N_{max}$, then n is added to the time intervals assigned to S_i ;
 - the loop of the passages is continued on all the stations:
 - if, during a passage, no time interval has been added to any station, then no other passage is made;
 - if, during a passage, at least one time interval has been added, then a new passage is executed.
 - 20 2. The method according to claim 1, wherein the interval E corresponds to a combination of the time interval numbers already assigned to a station S_i during preceding passages and time intervals already assigned to the stations S_j which are related to S_i by a particular relationship known as a
 - 25 relationship of competition.
 3. The method according to claim 1, wherein the graph of the relationship of competition is set up according to the following steps: from a relationship of visibility written as R , a relationship of competition between stations, referenced C, is determined as follows:
 - 30 two stations S_i and S_j are in competition, $S_i \text{CS}_j$ if and only if $(S_i R S_j \text{ and } \text{NOT } S_j R S_i)$

or

$(S_j \neq S_i \text{ and } (\text{NOT } S_i \neq S_j))$

or

$(\exists S_k \text{ such that } S_k \neq S_i \text{ AND } S_k \neq S_j \text{ AND NOT } (S_i \neq S_j \text{ and } S_j \neq S_i))$

5 4. The method according to claim 1, further comprising the following steps:

- encoding the identifier I of each of the stations, on a number n of bits b_1, b_2, \dots, b_n , using two symbols corresponding respectively to a reception state and to a transmission state;
- for any unspecified station S_i , during an attempt to make transmission, starting at a given identification slot;
- for i varying from 1 to n ,
 - if the value of b_i is equal to the symbol corresponding to the reception state, the station S_i receives during the slot $k+i-1$:
 - if the station S_i detects a signal sent by another station it considers itself not to be chosen;
 - if the station S_i detects nothing, the station S_i continues to scan the bits b_i ;
 - if the value of b_i is equal to the symbol corresponding to the transmission state, the station transmits during the slot $k+i-1$;
 - allocating the medium to the station that has performed the step b.2) without receiving the transmission symbol.

5. The method according to claim 4, comprising a step b.0) preliminary to the step b.1) for the transmission of the transmission symbol by the station S_i and wherein the steps b.1), b.1.1), b.1.2) may be carried out on identification slots varying from $k+1$ to $k+n$.

6. The method according to claim 4 using binary encoding and the reception operation "receive 1" when a station detects a signal coming from another station and "receive 0" when it receives no signal and the "send 1" operation when the station transmits a signal in a given slot.

30 7. The method according to claim 4, using an identification number taken in an interval $[0, N-1]$ with $N=2^n$.

8. The method according to claim 1, wherein the broadcasting medium is a radio station and wherein the stations are transmitter-receiver units.

9. A method for the allocation of access to a broadcasting medium by several stations S_i , wherein the stations are provided with a digital processing circuit adapted to executing the steps of a method comprising the following steps :

5 defining a graph of competition between the different stations;

assigning time intervals to each station in making successive passages on all the stations and carrying out the following steps at each 10 passage and for each station:

E is an interval of given time interval numbers

n is the smallest natural integer that does not belong to the interval E,

15 if it is not the first passage AND if $n > N_{max}$, then no time interval whatsoever is added to the station S_i ;

if it is the first passage OR if $n \leq N_{max}$, then n is added to the time intervals assigned to S_i ;

the loop of the passages is continued on all the stations:

20 if, during a passage, no time interval has been added to any station, then no other passage is made;

if, during a passage, at least one time interval has been added, then a new passage is executed.

10. The method according to claim 9 wherein the interval E corresponds to a combination of the time interval numbers already assigned to a station 25 S_i during preceding passages and time intervals already assigned to the stations S_j which are related to S_i by a particular relationship known as a relationship of competition.

11. The method according to claim 9 wherein the graph of the relationship of competition is set up according to the following steps:

30 from a relationship of visibility written as R , a relationship of competition between stations, referenced C, is determined as follows:

two stations S_i and S_j are in competition, $S_i \text{CS}_j$ if and only if

$(S_i \text{RS}_j \text{ and } (\text{NOT } S_j \text{RS}_i))$

or

$(S_j \text{RS}_i \text{ and } (\text{NOT } S_i \text{RS}_j))$

5 or

$(\exists S_k \text{ such that } S_k \text{RS}_i \text{ AND } S_k \text{RS}_j \text{ AND NOT } (S_i \text{RS}_j \text{ and } S_j \text{RS}_i))$

12. The method according to claim 9 wherein the digital processing circuit is adapted for executing the following steps:

a) encoding the identifier I of each of the stations, on a number n of
10 bits b_1, b_2, \dots, b_n , using two symbols corresponding respectively to a
reception state and to a transmission state;

b) for any unspecified station S_i , during an attempt to make
transmission, starting at a given identification slot,

b.1) for i varying from 1 to n ,

15 b.1.1) if the value of b_i is equal to the symbol corresponding to the reception
state, the station S_i receives during the slot $k+i-1$:
if the station S_i detects a signal sent by another station it considers itself
not to be chosen;
if the station S_i detects nothing, it continues to scan the bits b_i

20 b.1.2) if the value of b_i is equal to the symbol corresponding to the
transmission state, the station transmits during the slot $k+i-1$;

c) allocating the medium to the station that has performed the step
b.2) without receiving the transmission symbol.

13. The method according to claim 12 wherein it comprises a step b.0)
25 preliminary to the step b.1) for the transmission of the transmission symbol
by the station S_i and wherein the steps b.1), b.1.1), b.1.2) may be carried
out on identification slots varying from $k+1$ to $k+n$.

14. The method according to claim 12 using binary encoding and the reception
operation "receive 1" when a station detects a signal coming from another

station and "receive 0" when it receives no signal and the "send 1" operation when the station transmits a signal in a given slot.

15. The method according to claim 9 wherein the broadcasting medium is a radio station and wherein the stations are transmitter-receiver units.

5 16. The method according to claim 9 comprising a station configuration device that is separate from the stations.

17. The method according to claim 5, using binary encoding and the reception operation "receive 1" when a station detects a signal coming from another station and "receive 0" when it receives no signal and the "send 1" operation when the station transmits a signal in a given slot.

10 18. The method of claim 13, using binary encoding and the reception operation "receive 1" when a station detects a signal coming from another station and "receive 0" when it receives no signal and the "send 1" operation when the station transmits a signal in a given slot.